

### **Amendments to the Claims:**

This listing of claims will replace all versions and listings of claims in the application:

### **Listing of Claims:**

1. (currently amended) An indirect heating system in which a solid fuel circulates in the form of particles, comprising:

a grinding station that grinds the solid fuel into coarse, fine and ultrafine particles and releases them as a stream of flowing particles;

a separator receives the stream from the grinding station and that intercepts the coarser particles from the stream to provide fine particles and finest particles;

at least one cyclone that receives the stream from the separator, and intercepts the fine particles from the stream finest particles to provide finest particles;

~~an intermediate silo that receives the fine particles for burning in a combustion chamber; and~~

a dust extractor receives the stream after the cyclone and that intercepts the finest ultrafine particles from the stream which are then provided by a dedicated pipe to a dedicated burner for burning in the combustion chamber.

2. (previously presented) The heating system according to claim 1, wherein the dedicated burner is near a main burner.

3. (currently amended) The heating system according to claim 2, wherein the finest ultrafine particles are provided by a plurality of dedicated pipes to respective dedicated burners, each of the dedicated burners being near a respective main burner.

4. (currently amended) An indirect heating system in which a solid fuel circulates in the form of particles, comprising:

a grinding station that grinds the solid fuel into coarse, fine and ultrafine particles and releases them as a stream of flowing particles;

a separator receives the stream from the grinding station and that intercepts the coarser particles from the stream to provide fine particles and finest particles;

at least one cyclone receives the stream from the separator, and that intercepts the fine particles from the stream finest particles to provide finest particles;

~~an intermediate silo that receives the fine particles for burning in a combustion chamber; and~~

a dust extractor receives the stream after the cyclone and ~~that intercepts the finest-ultrafine particles from the stream~~ which are then provided by a dedicated pipe to a dedicated injector to introduce the finest particles into the combustion chamber.

5. (currently amended) The heating system according to claim 4, wherein the finest ultrafine particles are injected under substoichiometric conditions.

6. (currently amended) The heating system according to claim 1, wherein the intercepted coarse particles have a diameter less than 75 microns.

7. (currently amended) The heating system according to claim 1, wherein the ~~intercepted-ultrafine~~ particles have a true mass per unit volume from  $0.1 \text{ kg/dm}^3$  to  $0.4 \text{ kg/dm}^3$  lower than that of the fine particles intercepted by the cyclone.

8. (canceled))

9. (previously presented) The heating system according to claim 1, wherein the combustion chamber is a double vault combustion chamber, a front heating combustion chamber, or tangential heating combustion chamber.

10. (canceled)

11. (canceled)

12. (previously presented) The heating system according to claim 1, wherein the solid fuel is non-bituminous coal.

13. (currently amended) The heating system according to claim 1, further including a dedicated intermediate silo that receives the ~~finest-ultrafine~~ particles from the dust extractor.

14. (previously presented) The heating system according to claim 1, wherein the fine particles are provided to a main burner for burning in the combustion chamber.

15. (currently amended) The heating system according to claim 1, further including a feeder that meters the quantity of the ~~finest-ultrafine particles provided material~~ to the dedicated burner.

16. (previously presented) The heating system according to claim 1, wherein the dust extractor includes a bag filter or an electrostatic dust extractor.

17 (currently amended) The heating system according to claim 1, wherein the ~~finest ultrafine particles~~ is-are mixed with a hot gas.

18. (currently amended) The heating system according to claim 1, wherein some of the ~~finest-ultrafine particles~~ are provided by a second dedicated pipe to a dedicated injector that introduces the ~~finest-ultrafine particles~~ into the combustion chamber.

19. (currently amended) The heating system according to claim 18, wherein the ~~finest ultrafine particles~~ provided to the dedicated injector to introduce the ~~finest-ultrafine particles~~ into the combustion chamber near the main burners.

20. (currently amended) The heating system according to claim 1, wherein the ~~finest ultrafine particles~~ have a higher content of combustible material than the fine particles.

21. (previously presented) The heating system according to claim 4, wherein the dedicated injector is disposed near a main burner.

22. (currently amended) The heating system according to claim 4, wherein the dedicated injector introduces the ~~finest-ultrafine particles~~ downstream of a main burner.

23. (currently amended) An indirect heating system in which a solid fuel circulates in the form of particles, comprising:

a grinding station that grinds the solid fuel into coarse, fine and ultrafine particles and releases them as a stream of flowing particles;

a separator receives the stream from the grinding station and that intercepts coarser particles from the stream to provide fine particles and finest particles;

at least one cyclone receives the stream from the separator and that intercepts the fine particles from the stream ~~finest particles to provide the finest particles~~;

a first intermediate silo that receives the fine particles for burning in a combustion chamber;

a dust extractor that intercepts the ~~finest~~ ultrafine particles which are then provided by a dedicated pipe to a dedicated burner for burning in the combustion chamber;

a second intermediate silo that receives the ~~finest~~ ultrafine particles from the dust extractor, wherein the ~~finest~~ ultrafine particles are then provided by a dedicated pipe to a dedicated burner for burning in the combustion chamber; and

a feeder that controls the amount of ~~finest~~ ultrafine particles provided from the second intermediate silo to the dedicated burner.

24. (new) The indirect heating system of claim 1 further comprising:

an intermediate silo coupled to at least one cyclone adapted to receive and store the fine particles from the cyclone.